Remarks/Arguments

The courtesy of the interview granted to Applicant's Attorney, Applicant David Silvers and Jack Smith, a director of assignee SilverSmith, Inc., on November 7, 2006, is acknowledged with thanks and appreciation. At the interview, the distinctions of the claims over the prior art references were discussed. In addition, Mr. Silvers discussed the state of the art at the time the invention was made, the conception of the invention and the development of the invention. Mr. Smith discussed the commercial success of the invention. To the extent relevant to this Response, the substance of the arguments made at the interview will be incorporated into the discussion below as confirmation of the interview.

By the present amendment, claims 1, 5, 11, 19 and 29 have been cancelled and a number of the claims have been amended for purposes of clarity. Claims 10 and 31 have been rewritten in independent form. No new matter has been added to the claims. In addition, new claims 33-41 have been added. New claim 33 is patterned to some extent after cancelled claim 11. New claims 34-41 are generally patterned after claims 1-10 but set forth a system which is actually placed in a working oil or gas field with geographically spaced wells.

In the Office Action, claims 1 and 2 have been rejected under 35 U.S.C. § 112. This rejection is respectfully traversed. By the present amendment, the limitations cited by the Examiner have been amended to correct any lack of antecedent basis. Further, claim 21 has been amended to add a period at the end of the sentence.

Claim Rejection - 35 U.S.C. § 103

Claims 1-10 have been rejected under 35 U.S.C. § 103 as being unpatentable over Tubel et al. U.S. Patent No. 5,706,896 (Tubel et al. '896) in view of Maxit et al. U.S. Patent No. 6,798,350 (Maxit et al. '350). This rejection is respectfully traversed.

The Tubel et al. '896 reference discloses remote control and monitoring downhole electromechanical equipment using wireless communication between surface platforms and a central control station (10) and through a satellite or directly between platforms and the central control station through a wireless connection or via telephone lines. Each of the surface

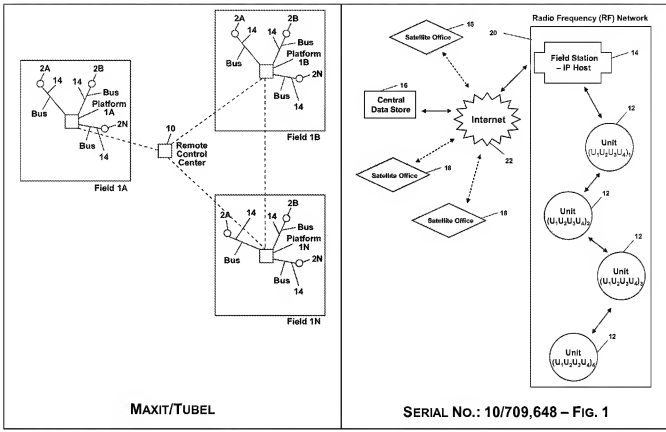
platforms is connected to a number of underwater wells beneath the platforms and each of the wells has one or more producing strata. The downhole control systems are said to have the ability to communicate with other downhole control systems and other control systems in the same or different wells. The surface platform may communicate with downhole modules on a periodic basis to command the modules to open or close electromechanical control devices. A broadcast signal can be sent from platform to platform.

The Maxit et al. '350 reference discloses a two-way communication system and method between a surface controller in a surface platform and a plurality of producing wells. Each of the producing wells has a plurality of producing zones and a flow control device coupled to a controller in each producing zone. A transmission bus connects the surface controller to each downhole controller. Each downhole controller has a unique address. Control signals are sent to a destination controller along a series of repeating nodes until the signal reaches a destination controller. The controller performs an operation and sends a reply signal through the same series of repeating nodes back to the surface unit. It appears that the Maxit et al. '350 communication system is adapted to be used in the Tubel et al. '896 system. Thus, the alleged combination of Tubel et al. '896 and Maxit et al. '350 would at best add to the Tubel et al.'896 system the two-way hopping communication system disclosed in the Maxit et al. '350 reference.

The alleged combination of Tubel et al. '896 and Maxit et al. '350 is traversed to the extent that the alleged combination can be interpreted to disclose anything more than adding the Maxit et al. '350 communication system between producing zones in a well and a platform to the Tubel et al. '896 disclosure. There is no basis for any other interpretation of this alleged combination of references.

In order to graphically demonstrate the differences between the alleged combination of the Maxit et al. '350 and Tubel et al. '896 disclosures and Applicant's invention, the Examiner's attention is directed to the inset graphic of Figure 1 of the present application juxtaposed to a drawing of the alleged combined teachings of Maxit et al. '350 and Tubel et al. '896 (Maxit/Tubel drawing). As the Examiner will note, at best, the remote control center in the Maxit/Tubel drawing would be analogous to the central store 16 of Applicant's Fig. 1 and the

platforms 1A, 1B, and 1N in the Maxit/Tubel drawing would be each analogous with one field station IP host of Applicant's Fig. 1. Further, the wells 12 in Applicant's Fig. 1 might at best be considered to be analogous to the wells 2A, 2B, and 2N in the Maxit/Tubel drawing. As shown in Applicant's Fig. 1, communication between the field IP host and the well units 1-4 is through



a predefined well hopping path with only one of the well units in a path communicating directly with the field station. Further, the communication between wells is with a wireless communication. There is no disclosure of this concept in either the Maxit et al. '350 reference or the Tubel et al. '896 reference, either alone or in combination. In contrast to Applicant's Fig. 1, communication between the platforms 1A, 1B and 1N and the associated wells 2A, 2B and 2N in each field 1A, 1B and 1N is through a direct bus connection. There is no hopping of communication data between the wells 2A, 2B and 2N in the Maxit/Tubel drawing.

Turning now to the rejection of claims 1-10, claims 1 and 5 have been cancelled and claim 10 has been written in independent form. Claims 2-4 and 6-9 have been amended to

depend from claim 10. Claim 10 and the claims dependent therefrom define over the alleged combination of Tubel et al. '896 and Maxit et al. '350 in calling for a central store computer processor that is programmed to encode data packets to and from geographically spaced well monitors with an address unique to each of the well monitors and with a predefined communication path to each of the well monitors. Nor does the alleged combination of Tubel et al. '896 and Maxit et al. '350 disclose a plurality of well monitors, each of which has a transceiver for transmitting a wireless signal representative of recorded gas and oil production data of the respective well that it is associated with and is programmed to receive wireless signals representative of data from other of the well monitors and transmit the wireless signal other of the well monitors and to a data transmission processor and wherein each of the well monitors is programmed to pass on to another well monitor data packets that it receives and that have an address different than the address of the respective well monitors. By the claimed invention, oil or gas well production data can be transmitted to the central data store by hopping from well monitor to well monitor along the predefined path to the data transmission processor which can then, in turn, transmit the oil or gas well production data to the central store for storage and analysis. As demonstrated above, the alleged combination of Tubel et al. '896 and Maxit et al. '350 does not disclose the wireless transmission of data from one well to another well which is geographically spaced along a predefined hopping path to a data transmission processor as required by claim 10.

As demonstrated at the interview, Applicant's claimed invention is especially effective in collection of well production data from geographically spaced oil or gas wells in remote areas that have no electricity. In addition, the geographically spaced wells can be monitored from a distant location and controlled, if necessary, if problems occur. Applicant's invention has proved especially successful in collection well data and monitoring gas wells in Northern Michigan as well as in Alabama, Texas, Wyoming, Illinois and Western Canada.

As illustrated in the Maxit/Tubel drawing above, there is wireless transmission between *well surface platforms* (data transmission processors) and between the *well surface platforms* (data transmission processors) and a central data store. And, there is no disclosure of wireless

transmission of data between well monitors along a predefined path. Therefore, claims 2-4 and 6-10 patentably distinguish over the alleged combination of Tubel et al. '896 and Maxit et al. '350.

Claims 2-4 and 6-9 depend from claim 10 and define over the of Tubel et al.'896 and Maxit et al. '350 in the same manner as claim 10. In addition, claim 2 further calls for the central data store to have a computer processor that is programmed to make selected data available to one or more remote users under predetermined conditions. This concept is not disclosed in the Examiner's alleged combination of Tubel et al. '896 and Maxit et al. '350.

In addition, claim 4 depends from claim 2 and calls for the data store computer processor to be programmed to retrieve data from one or more well monitors upon request from one or more remote users under certain conditions. This concept is also not disclosed in the alleged combination of Tubel et al. '896 and Maxit et al. '350.

Further, claim 6 calls for the well monitors to be programmed to transmit data over radio waves at a 900 Megahertz frequency band. This concept is not disclosed in the references and is quite relevant to Applicant's land-based systems wherein the wells are typically spaced less than a mile part.

Still further, claim 7 further defines over the Examiner's alleged combination of references in that each of the well monitors has an integrated communication control unit that comprises a radio module and a central processing unit that run solely on transistor-transistor logic (TTL) level voltages. This concept is also relevant to Applicant's land-based system which minimizes power requirements in remote areas that are typically solar powered.

Claim 8 further defines over the Examiner's alleged combination of references in calling for a recorder controller that is adapted to convert a voltage representative of oxygen content in a gas line into a signal representative the oxygen content in the gas line. The Examiner's alleged combination of Tubel et al. '896 and Maxit et al. '350does not disclose a gas line. There is no such disclosure in the Examiner's alleged combination of references of such a gas line. The gas line is not part of the well construction but is a line into which the gas production from any well is fed in order to pass the gas on to consumers. Further, claim 8 calls for a transmitter connected

to a recorder controller for transmitting a signal representative of the oxygen content in the gas line to the central data store through a wireless signal that hops along the predefined path that includes at least two of the well monitors and the data collection transmission processor. This concept is wholly missing from the Examiner's alleged combination of Tubel et al. '896 and Maxit et al. '350.

Further, claim 9 distinguishes over the Examiner's alleged combination of Tubel et al. '896 and Maxit et al. '350 in calling for a data store computer processor that is programmed to retrieve data from one or more well monitors upon request from one or more remote users under certain conditions. No such remote users are disclosed in the Examiner's alleged combination of Tubel et al. '896 and Maxit et al. '350. Referring to Applicant's Figure 1, the remote users are entitled "satellite office" and communicate with the central data store through the Internet. No such analogous remote users are shown in the Maxit et al. '350/Tubel et al. '896 drawing because no such disclosure exists in either of the two references.

In view of the foregoing, it is apparent that claims 2-4 and 6-10 patentably define over the alleged combination of Tubel et al. '896 and Maxit et al. '350.

Claim Rejections - 35 U.S.C. § 102

Claims 11-14, 17-19, 23-29, and 31 have been rejected as being anticipated by the Maxit et al. '350. This rejection is respectfully traversed.

In order to support a rejection under 35 U.S.C. § 102(e), the Examiner must show that each and every claim limitation is found in the cited references. The Examiner has failed to show each and every limitation of Applicant's claims 11-14, 17-19, 23-29, and 31 in the Maxit et al. '350 reference.

Claim 11 has been cancelled and replaced by new claim 33. New claim 33 relates to a method for communicating between geographically spaced wells and a central data store at a remote location with respect to the geographically spaced wells wherein a data request packet is encoded with an address unique to a destination well monitor at a destination well and with a defined path that includes a well monitor at each of at least two geographically spaced wells, the

encoded data request packet is sent from the central data store to a field station and the encoded data request packet is transferred from the field station to a first well monitor at a first well in the defined path via radio waves. After determining if the first well monitor is the destination well monitor, the request data packet is hopped along the defined path via radio waves until the request data packet reaches the destination well monitor in the event that the first well monitor is not the destination well monitor. This concept is not disclosed in the Maxit et al. '350 reference.

This concept is illustrated in Applicant's Figure 1 to which reference is made. The central data 16 transmits a signal via the Internet to a field station IP host 14 which in turn transmits the data packet along a well hopping path from geographically spaced well monitor to well monitor beginning at, for example, unit (U1, U2, U3, U4)1 to unit (U1, U2, U3, U4)4. This concept is not disclosed in Maxit et al. Referring to the Maxit/Tubel drawing, communication from a remote controller 10 to a well monitor is through a platform and directly along a bus to a well. There is no hopping from geographically spaced well to well along a predefined path to get to a destination well as set forth in claim 11. Thus, it is quite evident that claims 33, 12-14, 17 and 18 are not anticipated by Maxit et al.'350.

Further, claims 12-14, 17 and 18 depend from claim 33 and define over Maxit et al. '350 in the same manner as claim 33. In addition, claim 13, which depends from claim 12, calls for the response data packet to be sent from the destination well monitor to the field station by hopping the response packet via radio waves from the destination unit well monitor along the defined path until the destination packet reaches the field station.. This concept is not disclosed in Maxit et al. '350. There is no well hopping and no use of radio waves to hop between geographically spaced wells along a defined path in Maxit et al. '350.

Claim 18 depends from claim 17, which in turn depends from claim 33, and further calls for the step of transmitting a requesting from a remote user to the central data store for a data packet from the first well monitor and the request from the central data store is responsive to the request from the remote user. No such remote user is disclosed in the Maxit et al. '350 reference.

Claim 19 has been cancelled. Claim 31 has been rewritten in independent form and relates to a method for gathering operating data from a plurality of geographically spaced oil or

gas producing wells wherein well production data relating to at least one of the spaced oil or gas producing wells is gathered and transmitted to a central data storage zone where at least some of the transmitted date is stored. Each of the wells is assigned a unique address and at least one well hoping path between each well and the central data store zone. The transmission of the well production data includes wireless transmission of well production data from the at least one well along the at least one well hopping path that includes the at least one well and at least one other of said geographically spaced wells. This concept is not disclosed in the Maxit et al. '350 reference.

Claims 23-29 and 31 depend from claim 31 and define over Maxit et al. '350 in the same manner as claim 30. In addition, claim 24, which depends from claim 23, calls for the polling step to be initiated from a site remote from the central data storage zone. No such remote user is disclosed in Maxit et al. '350.

Claim 27 depends from claim 25 and adds the step of transmitting data requests to each of the wells along the at least one hopping path but in the opposite direction from the gathering step. Maxit et al. '350 does not disclose the transmission of well data along a well hopping path of claim 31 and thus does not disclose the polling of well data along a well hopping path but in the opposite direction.

Claim 28 further defines over Maxit et al. '350 in calling for a plurality of geographically spaced oil and gas producing wells and the wireless transmission of well data takes place between wells that are geographically spaced from each other a distance of no more than 1 mile. Maxit et al. '350 not only does not disclose the transmission of well data along a well hopping path of claim 31 and does not disclose transmitting data between wells that are spaced from each other a distance of no more than 1 mile.

Claim 29 has been cancelled and the subject matter thereof has been incorporated into claim 31.

In view of the foregoing, it is evident that claims 11-14, 17-18, 23-28, and 31 are not anticipated by Maxit et al. '350.

Claim Rejection - 35 U.S.C. § 103

Claims 15, 16, and 20 have been rejected under 35 U.S.C. § 103 as being unpatentable over Maxit as applied to claim 11 above and further in view of Tubel et al. U.S. Patent No. 6,873,267 (Tubel et al. '267). This rejection is respectfully traversed.

The Tubel et al. '267 reference is much like the Tubel et al. '896 reference in that it discloses the control of downhole bore tools and the acquisition of data relating to production in multiple zones and multiple wells through a series of platforms which gather the production data and in turn control the production in the producing strata in the wellbores. In addition, the Tubel et al. '267 reference discloses a central data storage server and access to the central data storage through a remote location via the Internet. The transmission of the data from the platforms to the remote controller is through a satellite system and not through the Internet.

The alleged combination of Maxit et al. '350 in view of Tubel et al. '267 at best discloses the addition of a remote user to the Maxit et al. '350 disclosure. To the extent that the alleged combination of Maxit et al. '350 and Tubel et al. '267 is considered to disclose anything further, the alleged combination of Maxit et al. '350 and Tubel et al. '267 is traversed. There is no basis for extending the combined disclosures of these two references to any other subject matter as it related to the present application.

The Tubel et al. '267 reference in combination with Maxit does not supply the missing features of Maxit et al. '350 with respect to claim 33 from which claims 15 and 16 depend. Thus, claims 15 and 16 define over the alleged combination of Maxit et al. '350 and Tubel et al. '267 in the same manner as claim 33 in the manner set forth above. In addition, claims 15 and 16 define over the alleged combination of references in calling for the step of sending the response packet from the field station to the central data store via the Internet. No such disclosure is found in the alleged combination of Maxit et al. '350 and Tubel et al. '267.

Likewise, claim 20 depends from claim 31 and defines over the alleged combination of Maxit et al. '350 and Tubel et al. '267 in the same manner as claim 31 as set forth above. Tubel et al. '267 does not disclose the concept of the wireless transmission of well data along a well hopping path of geographically spaced wells as required in claim 31. In addition, claim 20 defines over the alleged combination of Maxit et al. '350 and Tubel et al. '896 in calling for the

step of transmitting data between the well hopping path and the central storage zone through the Internet. The alleged combination of references would transmit data via a satellite system and not through the Internet.

Claims 21, 22, 30, and 32 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Maxit et al. '350. Claims 21, 22, 30, and 32 depended from claim 31 and define over Maxit et al. '350in the same manner as claim 31 as set forth above. In addition, contrary to the Examiner's representation, Maxit et al. '350 does not disclose the step of correlating transmitted data according to wells at a central location as required by claim 21.

With respect to claim 22 Maxit et al. '350 does not disclose accessing selected portions of the data as required by claim 22.

With respect to claim 30, Maxit et al. '350 does not disclose wireless transmission of data between geographically spaced wells; nor does Maxit et al. '350 disclose the use of a 900 MHz frequency band for the wireless transmission. This frequency band has significance to Applicant's land-based system in which wells are spaced within approximately 1 mile of each other.

Finally, with respect to claim 32, Maxit et al. '350 does not even disclose a gas line, let alone disclose measuring the oxygen content in a gas line. Oxygen content in a natural gas line is very important to the operation of a gas production system. Maxit et al. '350 does not recognize this problem. Nor does Maxit et al. '350 disclose detecting the oxygen content in a gas line.

It is submitted that claims 21, 22, 30, and 32 are not obvious in view of Maxit et al. '350.

In view of the foregoing remarks and amendments, it is submitted that the application is in condition for allowance. Early notification of allowability is respectfully requested.

Respectfully submitted,

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